

REMARKS

This is a response to the Office Action mailed April 8, 2004.

In the Office Action claims 1, 2, 6-11, 15-18, and 20 are rejection under 35 USC 103(a) as being unpatentable over Grayson et al in view of Schlosser et al. Grayson is said to disclose the claimed invention, including an ice making machine having a rotating auger for marine use. However, Grayson is said to not disclose the ice making machine as having a condenser and compressor subassembly located remote from the ice making subassembly which includes the auger. Schlosser is said to teach an ice making system including a condenser and compressor subassembly which is located remote from the ice making assembly. The rejection concludes it would be obvious to modify Grayson et al so that the ice making subassembly which includes the auger is located remote from the condenser and compressor subassembly, in view of Schlosser, for the purpose of ease of repair and maintenance of the ice maker.

Claims 3-5, 12-14, and 19 are objected to in the Office Action as being dependent upon a rejected base claim, but are said to be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The indication of allowability of these claims is appreciated.

Reconsideration of the rejection in view of the new claims and remarks presented below.

Grayson discloses a marine craft refrigeration and delivery ice product system for delivering ice product from remote vertical and horizontal locations in the marine craft. Grayson is distinguished in the background section of the present invention as typifying the prior art and the problems which the present invention seeks

to overcome. Grayson points out that past ice making systems for use aboard boats, ships, and the like, have included means for dropping the ice product to lower levels within the boat below the level at which the ice making apparatus is located. The ice product then has to be manually carried to higher levels. For that reason, Grayson sought to locate the ice making system in the lower part of the boat and convey the ice product remotely to a part of the boat more readily accessible. Grayson teaches that the ice product may be delivered at locations separated by horizontal distances of at least 30 feet from the ice making assembly, and at least 5 vertical feet there above. Grayson teaches in a marine ice making system, that raw water drawn and discharged underneath the boat, and teaches locating the ice making machine in a sump like compartment of the boat. In particular, Grayson discloses locating the ice making machine next to the compressor/condenser assembly because a raw water line serves both assembly. The raw water line has an outer annular tube and an inner concentric tube. Water flows to the outer concentric tube. Thus, Grayson requires the ice making and compressor/condenser system be located together. It is against the teachings of Grayson to move the ice making machine to a location remote from the compressor/condenser unit.

On the other hand, applicant submits that Schlosser is from a different field of endeavor than Grayson and would not be thought of to modify Grayson, even if the modifications were possible. Schlosser is directed to the problem of harvesting ice from a mold using heated vapor passed through the evaporator.. Schlosser teaches an ice making machine having a water system including a pump, an ice forming mold, and interconnecting lines between the water system and ice forming mold. A refrigeration

system includes a compressor, a condenser, an expansion valve, an evaporator and thermal contact with the ice forming mold and receiver. The receiver has an inlet connected to the condenser, a liquid outlet connected to the expansion valve, and a vapor outlet connected by way of a valve passageway to the evaporator. During the harvest mode of the ice making machine, the vapor outlet of the receiver is connected to the evaporator giving off heat to the evaporator to release the ice from the ice forming mold. Schlosser states that the invention can be used with the ice making unit located in a cabinet atop the ice storage bin, and that the compressor unit may be located in another location or may be located in the cabinet with the ice maker. In other words, the location of the compressor unit relative to the ice making unit is of no consequence to Schlosser, and forms no part of the invention to which Schlosser is directed.

For the reasons stated above, it is respectfully submitted that one of ordinary skill in the art would not think to combine the Schlosser reference with Grayson. The combination of Schlosser and Grayson would not render the present invention obvious because the combination is not suggested by either reference, nor is there any teachings of how to make the combination in either reference. To modify Grayson, as set forth in the rejection, would cause one to go against the teachings of Grayson. Grayson requires and teaches to locate the ice making assembly with the compressor/condenser assembly. There is no teaching of how to separate these two assemblies or how to route the various favor and liquid refrigerant lines which are combined with a raw water cooling line at various stages of the operation. There is no suggestion in either reference to take the combined ice making and compressor system of Grayson, break them apart, and relocate the separated parts. Grayson teaches to

deliver the ice product to a remote location using an ice delivery line. To redesign the ice making and delivery system of Grayson would go against the teachings of Grayson. Certainly there is no teaching to make this modification in the prior art.

As noted above, Schlosser is not directed to the same type of ice making system. Schlosser does not deliver the ice product over a long distance delivery line as taught by Grayson. Moreover, the refrigeration system and refrigeration lines are different. No water cooling is used in the Schlosser system. In addition, a hot vapor outlet in line is used to harvest the ice by heating an evaporator surrounding the ice mold. This is a different process of making ice than the auger system of Grayson. The teachings of one would not be compatible with the teachings of the other, nor would there be any instructions in either reference of how to combine the systems to end up with the applicant's invention.

New claims 21 through 40 have been added, and these claims are discussed below.

In the Office Action original claim 3 was indicated to be allowable if rewritten in independent form. The salient features of allowed claim 3 have been rewritten in independent form as new claim 35, and new claim 35 is believed to be in condition for allowance. New dependent claims 36 through 40 depend on new claim 35, and are believed to be in condition for allowance.

New independent claim 21 is presented and believed to be allowable because of the limitations of an isolated compressor/condenser subassembly located in one compartment of a transport vehicle and a remote ice making subassembly disposed in a location remote from the compartment which is readily accessible to persons on the

transport vehicle, along with the specific recitations of the connection of the isolated compressor/condenser assembly and remote ice making assembly. Claim 21 specifically points out that the ice making subassembly is the type using a rotating auger to convey the ice through the chamber outlet and that the ice is delivered directly into a storage bin for access by persons on the transport vehicle, and further points out the arrangement of the refrigerant delivery lines and return lines for effectively delivering cool refrigerant over a long distance through the transport vehicle as opposed to conveying ice over a long distance as taught by the prior art. The inherent problems of ice clogging in the long delivery line and noise are solved in accordance with the present invention. Claims 22-24, dependent on claim 21 further point out specific features of the ice making machine and ice storage bin so that only short delivery channels are needed to convey the ice to further avoid ice clogging. Claims 27 and 28, dependent on claim 21 further point out features in a novel combination of the present invention for controlling the accumulation of ice.

New independent claim 29 is drawn along the same lines as independent claim 21, except that claim 29 is drawn more specifically to the combination of a transport vehicle and a mobile split ice making and delivery system. Claims 30 through 34, depending on claim 1, are patentable for the same reasons, and because of the further limitations contained therein.

For the above reasons, favorable action on the application and passing of
the case to issue is respectfully requested in due course of Patent Office business.

Respectfully submitted,



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